



**Full Manual  
1/2.9" Network Camera**

**PXD-2080Z03 B**

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## WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



The symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the unit.



The symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



### Caution

**To prevent electric shocks and risk of fire hazards, do NOT use other than specific power source.**

Warning(NTSC version) -- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution -- Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Mains power quality should be that of a typical commercial environment. If the user of the model requires continued operation during power mains interruptions, it is recommended that the model be powered from an uninterruptible power supply (UPS) or a battery."

**Notice -- The images used in manual are processed to help comprehension and may differ from actual appearance of the camera.**

## **WARNING**

### **NEVER USE THIS CAMERA**

- 1. IN WATER.**
- 2. IN AREA WHERE HAS SHOCK OR VIBRATION WHICH RESULTS IN THE PROBLEM FOR AUTO FOCUSING.**

## 1. Safety Instructions and Notes

- Please read this safety and operating instructions before putting the camera into operation.
- Keep the manual in a safe place for later reference.
- Pay attention to safety when laying the connection cable and observe that the cable is not subjected to heavy loads, kinks or damage and no moisture can get in.
- Never open the device such as boards or lens.  
The warranty becomes void if repairs are undertaken by unauthorized persons.
- Maintenance and repair have to be carried out only by authorized service centers.
- Use only a mild detergent to clean the housing.
- Keep clean the window surface from the dirt or dust, which may reflect the infrared light to the lens at night..
- The camera should never be operated beyond the technical specifications. This can lead to destruction.
- The camera should never be operated in water.

## 2. General Descriptions

This Network camera realizes the natural and crisp image as you see the scene in front of you by adopting Auto Focus Full HD(1920x1080p) camera module.  
Highly detailed pictures can be achieved and color reproducibility deserves attention.

With 3X Optical Zoom and 32X Digital Zoom,  
- Offers the flexible observation  
- Provides max. 96X zoom

With ICR mechanism,  
- Enhances its sensitivity about 10X at night time  
- Can accept the infrared light

With 24VAC/12VDC dual power design,  
- Offers the flexibility of installation  
- Ensures the reliability

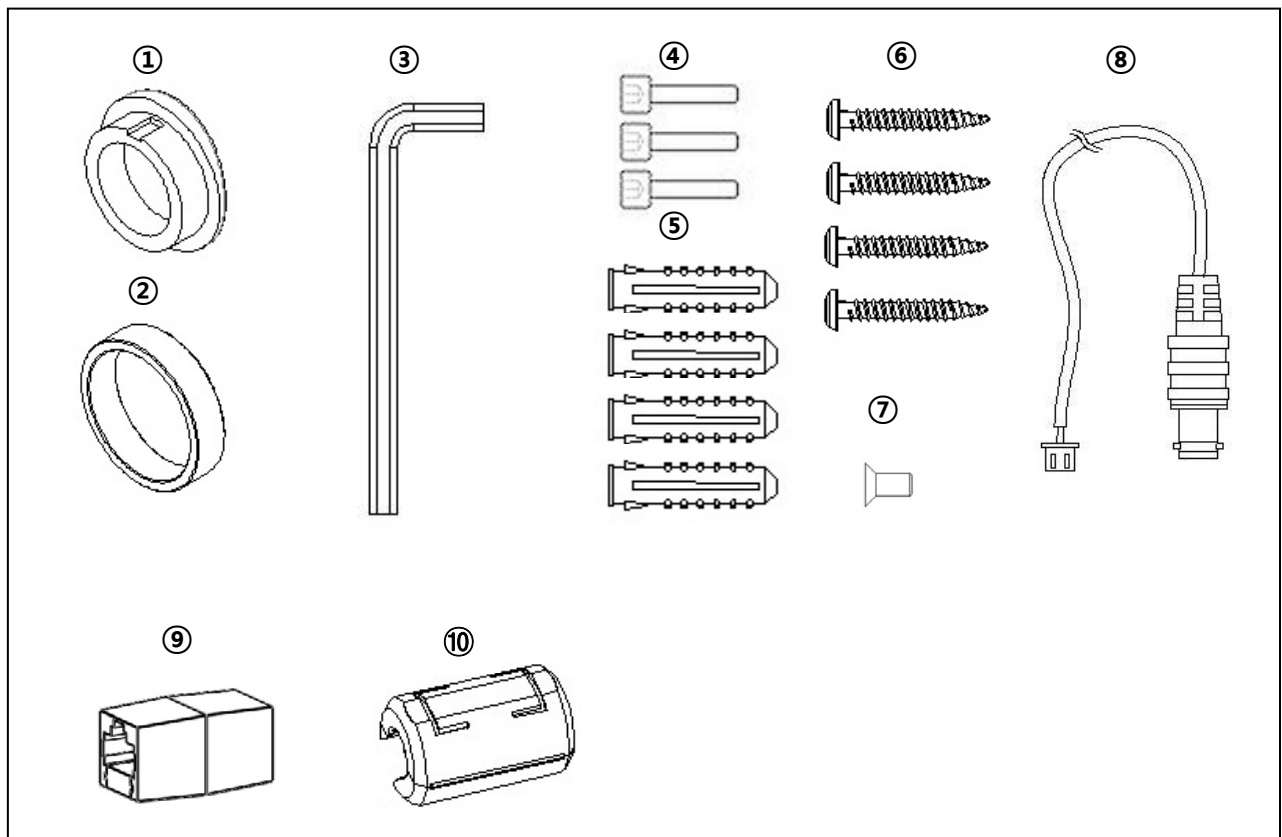
Main features are;

- Onvif / PSIA Conformance
- Optical 3X Auto Focus Zoom • Digital 32X Zoom
- f3~9mm, 3X Day & Night Zoom Lens
- 1920x1080p(30fps/25fps)
- Wide Dynamic Range
- Sense Up(~x8) / AGC(0~20) / 3D Noise Reduction

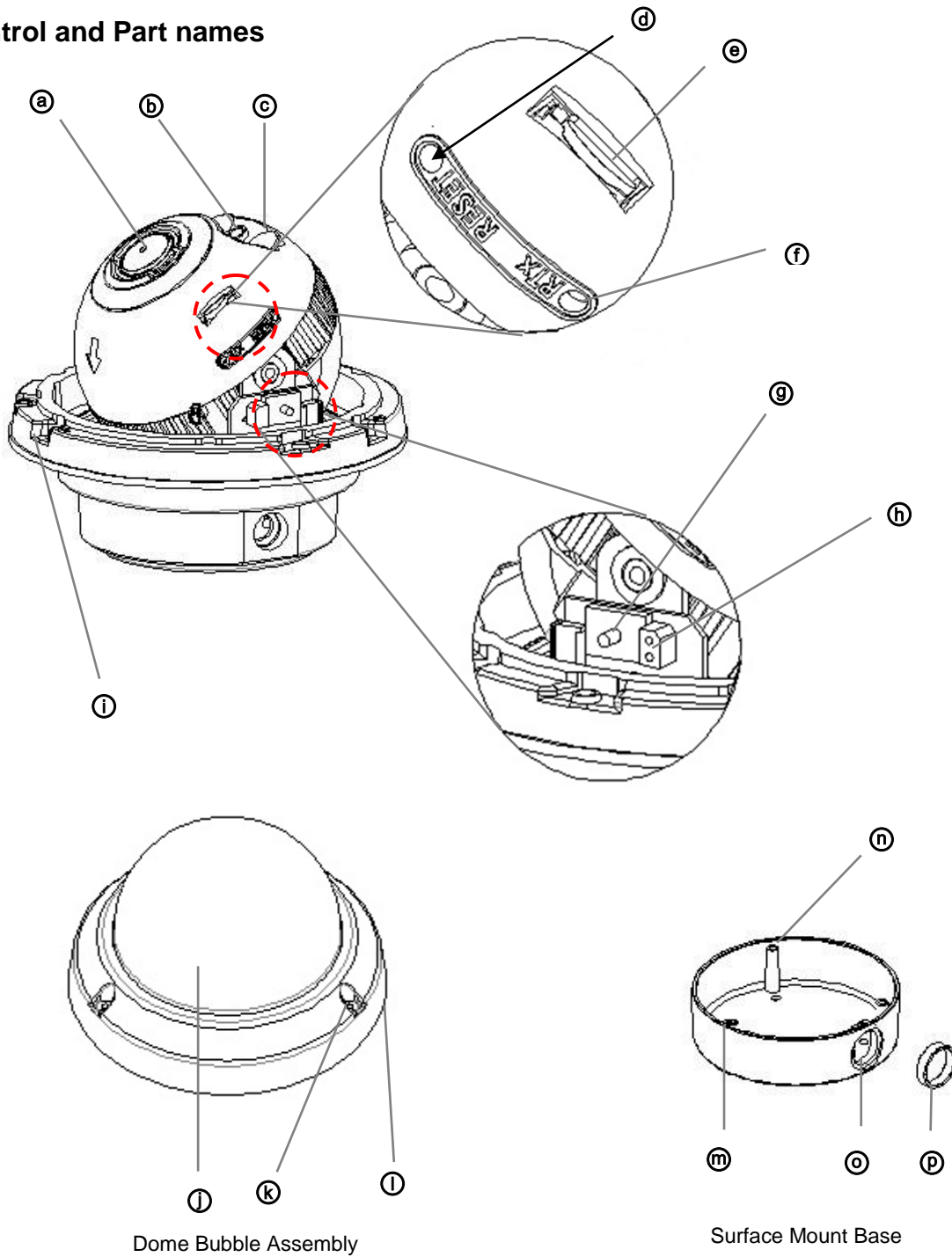
- SMART MOTION ZOOM(Automatic Zoom IN/OUT when motion is detected)
- Pointing Zoom which enables the flexible zooming at any area
- Motion Detection / Motion Deblur / Privacy Mask / Defog
- Focusing Status Indicator on Screen
  - ★(Blue)    Focusing in process
  - ★(White)    Focusing Completed
- Pixel Defect Compensation
- ID / TITLE / ZOOM RATIO Display
- H / V / HV FLIP
- Lens Refresh / Lens Initializing Set / LSC(Lens Shade Compensation)
- Enhanced Sensitivity by DSS technology
- Menu Control via either Local Joystick or WEB
- OSD Menu & CVBS Video Sub-out for Easy installation and Maintenance
- H.264/MJPEG dual streaming with TI DM365/368 engine
- Full duplex 2 way Audio, Alarm IN/OUT
- Max 30fps live view @ 1920x1080p
- MICRO SD memory card slot for Local recording
- PoE (Power Over Ethernet), IEEE 802.3af
- Input voltage: 24VAC/12VDC dual type of Local power
- Circuit protection against faulty connection in Power Polarity
- Isolated power supply against ground loop problem.
- Built in cooling Fan and Heating function
- Anti-Scratch Hard Coated Clear Bubble
- Changeable surface mount and flush mount
- Perfect 3-Axis gimbal
- 2 High power LEDs
- IP 67 / IK 10 Protection

### 3. Supplied Items

- 1x MegaPixel Network AF Zoom Camera
- 1x Installation and Operating Instructions
- 1x ① Pipe hole cap
- 1x ② Pipe Spacer
- 1x ③ L-shape hex wrench
- 3x ④ Wrench Bolt for surface mount
- 4x ⑤ Anchors
- 4x ⑥ Mount screws
- 1x ⑦ BM Screw
- 1x ⑧ Sub-out cable
- 1x ⑨ Coupler for RJ45 Cable
- 1x ⑩ EMI Ferrite Core



#### 4. Control and Part names



- Ⓐ Lens
- Ⓑ Light sensor for IR LEDs
- Ⓒ IR LEDs
- Ⓓ IP RESET
- Ⓔ MICRO SD Card Slot
- Ⓕ RTx Status Indicator
- Ⓖ OSD control joy stick
- Ⓗ Video Sub-output

- ① Mount holes(x3) for dome base
- ② Clear bubble
- Ⓚ Ring cover fixing screws(x3)
- ① Ring cover
- Ⓜ Surface mount holes(x4)
- Ⓝ Dome base fixing screw taps(x3)
- Ⓞ Pipe hole
- Ⓟ Pipe spacer

## 5. Installation

### 5.1 Installation Instructions

#### **WARNING** NEVER USE THIS CAMERA

- 1) in WATER.
- 2) in area where has SHOCK or VIBRATION which results in the problems for Auto Focus operation.

- Make sure the power is removed before the installation.
- Follow the order for applying power.

First, connect the low voltage (AC24V or DC12V), then plug the AC adapter to AC outlets to avoid an improper reset from power jitter and a damage from the surge voltage when no load.

VIDEO  
SUB-OUT  
connector



Joy stick

#### SYMBOL descriptions for joystick operation;

- ▲, ▼, ◀, ▶ denotes the directions of Joystick lever operation.
- ⏺ denotes the long press down straightly for about 2 seconds.

#### Zoom & Focus Adjustment

(Only works when OSD Menu is not operating)

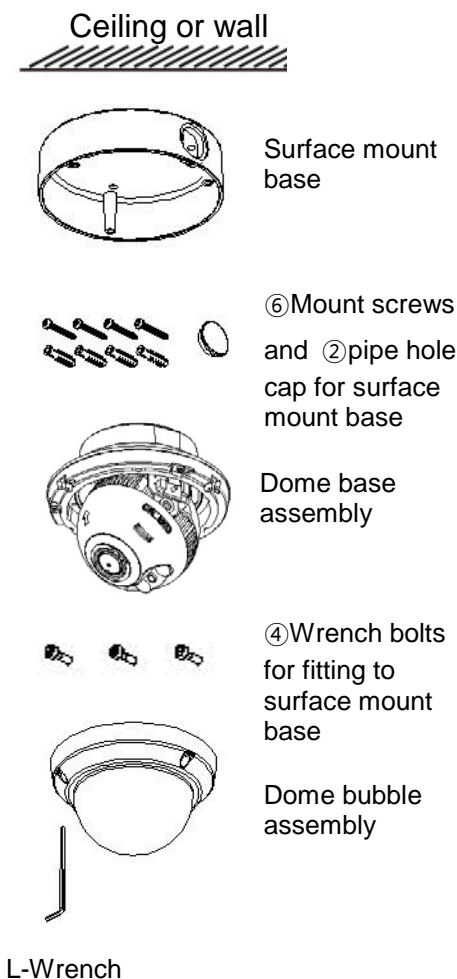
- ▲ Zoom In
- ▼ Zoom Out
- ◀ Focus Near
- ▶ Focus Far



IP Reset (Press over 10 sec by stick driver)



## 5.2 Surface mount



### Quick installation guides;

1. Locate the mounting template at the installation position and drill the ceiling or wall if needed.
2. Place Surface mount base on pre-drilled position and fix it through ①Surface mount holes(x4) by using ⑥Mount screws. Assemble the cable pipe, otherwise tighten ①pipe hole cap.
3. Open Dome bubble assembly by loosening ①Ring cover fixing screws(x3)

#### **CAUTION**

**Extreme care should be taken NOT to scratch the dome surfaces and to protect it from dirt or dust at any time.**

4. ⑦Mount holes(x3) for dome base and ⑧hole should be aligned before fixing Dome base assembly to Surface mount base by using ④Wrench bolts. And tighten ④wrench bolts
5. Route the power/ video cable to the connecting place.

#### **CAUTION**

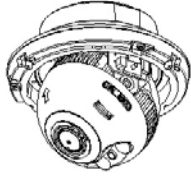
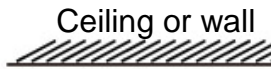
**Care should be taken the cable is NOT to be damaged, kinked or exposed in the hazardous area.**

6. Set the camera's angle (Pan, Tilt, inclination)
7. Adjust ZOOM/FOCUS by OSD menu or manual
8. Put Dome bubble assembly over Dome camera assembly and tighten ⑨Ring cover fixing screws(x3) by using ③L-shape hex wrench

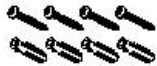
#### **CAUTION**

**Tighten enough ⑩Ring cover fixing screws(x3) so that there should be NO gap between ⑩Lens and ⑩Clear bubble to avoid the light inflow from IR LEDs.**

### 5.3 Flush mount



Dome base assembly



⑥ Mount screws



Dome bubble assembly

L-Wrench

#### Quick installation guides;

1. Locate the mounting template at the installation position and drill the ceiling or wall if needed.
2. Open Dome bubble assembly by loosening ① Ring cover fixing screws(x3)

#### **CAUTION**

**Extreme care should be taken NOT to scratch the dome surfaces and to protect it from dirt or dust at any time.**

3. Place Dome base assembly on pre-drilled position and fix it through ① mount holes(x3) by using ⑥ Mount screws. (Use three screws only out of ⑥ Mount screws(4x))
4. Route the power/ video cable to the connecting place.

#### **CAUTION**

**Care should be taken the cable is NOT to be damaged, kinked or exposed in the hazardous area.**

5. Set the camera's angle (Pan, Tilt, inclination)
6. Adjust ZOOM/FOCUS by OSD menu or manual
7. Put Dome bubble assembly over Dome camera assembly and tighten ① Ring cover fixing screws(x3) by using ③ L-shape hex wrench

#### **CAUTION**

**Tighten enough ① Ring cover fixing screws(x3) so that there should be NO gap between ① Lens and ① Clear bubble to avoid the light inflow from IR LEDs.**

## 5.4 Limit of pan and tilt

### 1. Pan limit

Pan is limited to  $\pm 165^\circ$ .

Do NOT force to rotate the gimbal over the limit to prevent from the internal damage.

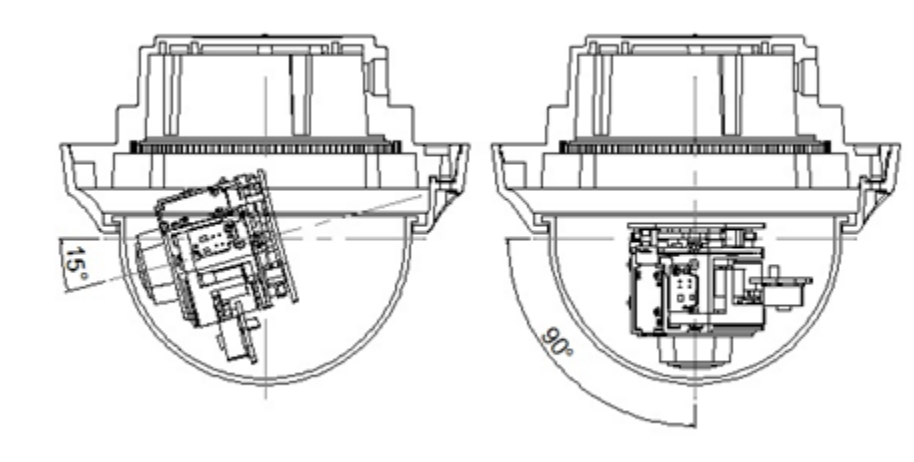
### 2. Tilt limit

Tilt is limited to  $15^\circ$  min ~  $90^\circ$  max. with reference to the ceiling when the inclination of camera module is  $0^\circ$ , that is, the image is aligned horizontally.

#### **CAUTION**

Tilt may NOT reach  $15^\circ$  min. if some IR light reflects to the lens when the inclination is NOT  $0^\circ$ .

When Tilt is set to near the minimum limit, examine and verify that NO IR reflection occurs.



### 3. Inclination limit (Horizontal image alignment)

Inclination limited to  $\pm 60^\circ$  max.

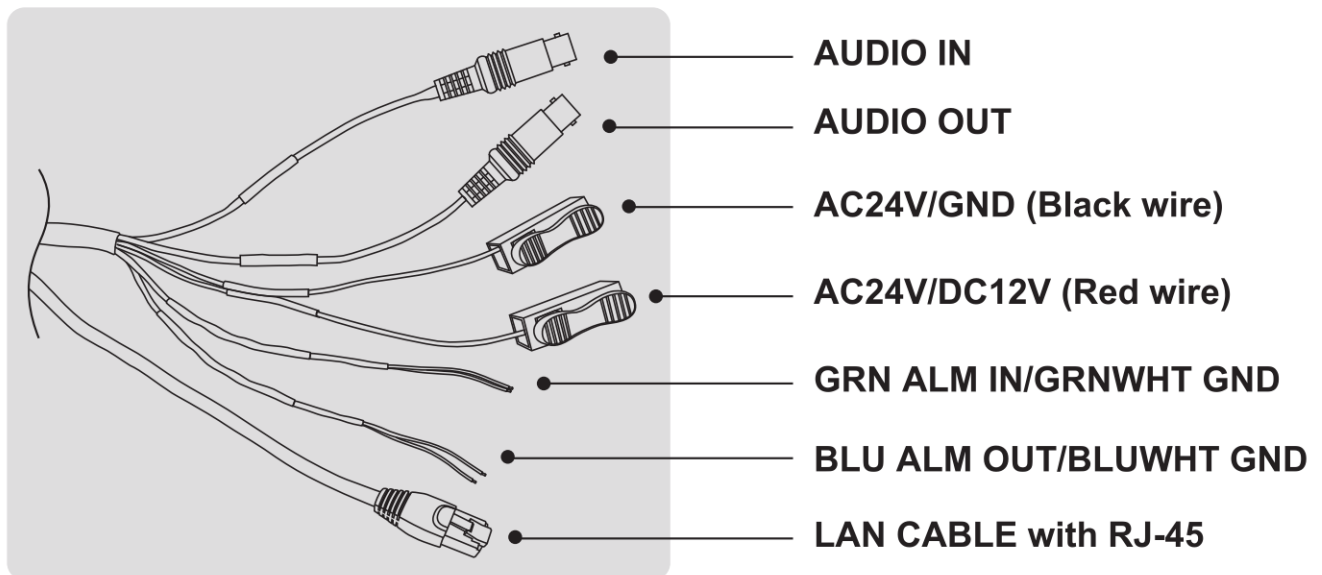
## 5.5 Installation and commissioning Instructions

- Make sure the power is removed before the installation.
- After all connections are finished properly, follow the order for applying power.
  - a) Plug the network cable into RJ-45 Ethernet Port at the rear panel.  
If PoE is the unique power, there will be no need to connect Power terminal.
  - b) When DC12V or AC24V Local power is necessary, first connect the low voltage (DC12V or AC24V), then plug the AC adapter to AC outlets to avoid an improper reset from power jitter and a damage from the surge voltage when no load.

※When PoE and Local power are connected, Local power has priority.

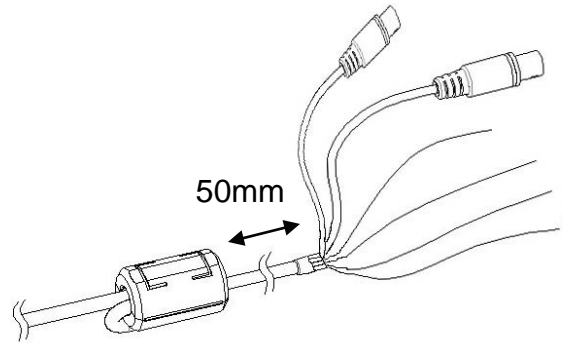
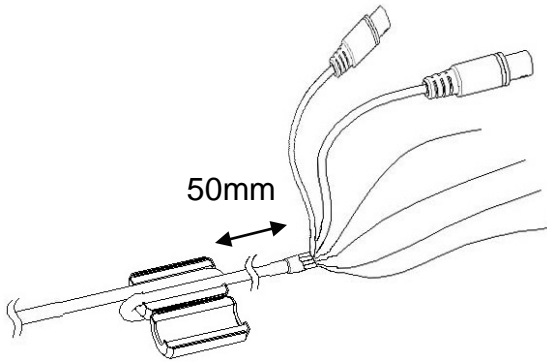
## 5.6 Power Supply Connections

Camera can work with either 24AC or 12VDC, dual voltage power and PoE(IEEE Std. 802.3af).  
Primary and secondary grounds are completely isolated to avoid the possible ground-loop problems.



### 5.2.1 EMI Ferrite Core Connections

Please connect EMI Ferrite Core as below photos.



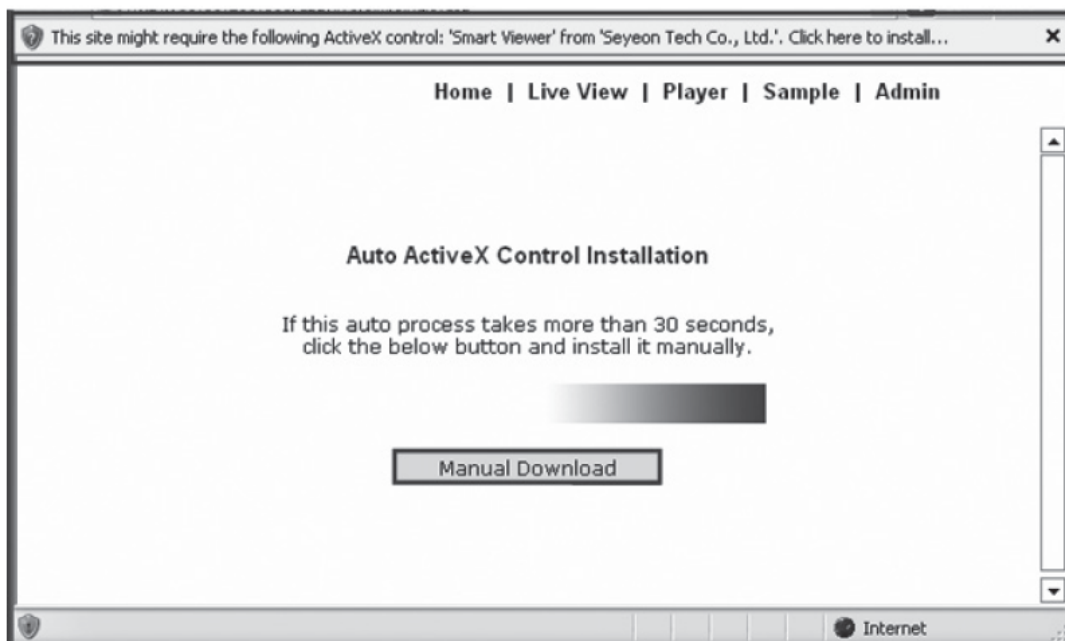
## 6. Setup Menu

### 6.1 Quick Network Setup

The network camera's default IP address is: 192.168.1.10.  
Therefore, to access the camera for the first time, set the PC's address as

192.168.1.XX; for example:  
IP Address: 192.168.1.20  
Subnet Mask: 255.255.255.0

- Enter the camera's IP address in the URL bar of the Web browser window and hit "Enter."
- Enter the default user name (root) and password (root) in the prompt request dialogue.  
It is also possible to reset IP parameters to the original factory default settings by pressing the IP reset



If the Information message doesn't come out due to the problems like network failure, you can start the manual installation.



Click the Install ActiveX Control, and the pop-up window will be displayed.  
After the installation is successfully completed, Smart Viewer window will be displayed.

## - Assigning an IP address

To assign an IP address to the camera proceeded as follows:  
Click Network Configuration on the Network Configuration menu.

Quick Configuration
System Configuration
Network Configuration
» Network Configuration
» Network Ports
» Bandwidth Control
» View Network Status
» Network Status Notify
» IP-CCTV DNS™
» Port Forwarding & UPnP
» RTP/RTSP
» SNMP
Device Configuration
Advanced Configuration
Recording Configuration
Utilities

Quick Configuration	
This category shows the detailed method for Quick Configuration.	
» Step 1	Configuration of Network Video System name.
» Step 2	Configuration of Network Video System Date & Time.
» Step 3	Configuration of Network(IP,Netmask,Gateway,DNS).
» Step 4	Configuration of dynamic IP registration of Network Video System.
» Step 5	Configuration of recording for each camera.
» Finish	Update the flash memory by new configured data, which is not versatile.

Depending on the service type, the network configuration can be in any of Static IP, DHCP Client, or PPPoE. You need to set up the network camera according to your network type.

<b>Quick Configuration</b>	<p align="center"><b>Network Configuration : Static IP</b></p> <p align="center"> <b>Static IP</b> <input checked="" type="radio"/>    <b>DHCP Client</b> <input type="radio"/>    <b>PPPoE</b> <input type="radio"/> </p> <table border="1"> <tr> <td>IP Address</td> <td>192.168.1.10</td> </tr> <tr> <td>NetMask</td> <td>255.255.255.0</td> </tr> <tr> <td>GateWay</td> <td>192.168.1.2</td> </tr> <tr> <td>DNS 1</td> <td>168.126.63.1</td> </tr> <tr> <td>DNS 2</td> <td>168.126.63.2</td> </tr> </table> <p align="center"> <input type="button" value="Back"/>    <input type="button" value="Apply"/>    <input type="button" value="Refresh"/> </p>	IP Address	192.168.1.10	NetMask	255.255.255.0	GateWay	192.168.1.2	DNS 1	168.126.63.1	DNS 2	168.126.63.2
IP Address		192.168.1.10									
NetMask		255.255.255.0									
GateWay		192.168.1.2									
DNS 1		168.126.63.1									
DNS 2		168.126.63.2									
System Configuration											
Network Configuration											
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>> Bandwidth Control											
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>> Network Status Notify											
>> IP-CCTV DNS™											
>> Port Forwarding & UPnP											
>> RTP/RTSP											
>> SNMP											
Device Configuration											
Advanced Configuration											
Recording Configuration											
Utilities											

For static IP, select static IP and input values for IP address, NetMask, Gateway, DNS1, DNS2 and click apply for saving settings. After apply, program will ask closing web browser for updates, which will take 20~30 seconds.

<b>Quick Configuration</b>	<p align="center"><b>Network Configuration : DHCP Client</b></p> <p align="center"> <b>Static IP</b> <input type="radio"/>    <b>DHCP Client</b> <input checked="" type="radio"/>    <b>PPPoE</b> <input type="radio"/> </p> <p align="center"> <input type="button" value="Back"/>    <input type="button" value="Apply"/> </p> <p align="center"> <i>Notice : Please make sure to set up "Network Status Notify" option to get IP address through e-mail when DHCP option is selected.</i> </p>
System Configuration	
Network Configuration	
>> Network Configuration	
>> Network Ports	
>> Bandwidth Control	
>> View Network Status	
>> Network Status Notify	
>> IP-CCTV DNS™	
>> Port Forwarding & UPnP	
>> RTP/RTSP	
>> SNMP	
Device Configuration	
Advanced Configuration	
Recording Configuration	
Utilities	

For DHCP, DHCP server must exist in the same network environment. Select DHCP Client from Network Configuration, click Apply.



<b>Quick Configuration</b>	<div>Network Configuration : PPPoE</div> <div>Static IP <input type="radio"/> DHCP Client <input type="radio"/> PPPoE <input checked="" type="radio"/></div> <table border="1"><tr><td>User ID</td><td><input type="text"/></td></tr><tr><td>User Password</td><td><input type="text"/></td></tr><tr><td>Confirm Password</td><td><input type="text"/></td></tr></table> <div>Back Apply</div> <p><i>Notice :</i> Please make sure to set up "Network Status Notify" option to get IP address through e-mail when PPPoE option is selected. Otherwise, there is no way to get changed IP address.</p>	User ID	<input type="text"/>	User Password	<input type="text"/>	Confirm Password	<input type="text"/>
User ID		<input type="text"/>					
User Password		<input type="text"/>					
Confirm Password		<input type="text"/>					
<b>System Configuration</b>							
<b>Network Configuration</b>							
» Network Configuration							
» Network Ports							
» Bandwidth Control							
» View Network Status							
» Network Status Notify							
» IP-CCTV DNS™							
» Port Forwarding & UPnP							
» RTP/RTSP							
» SNMP							
<b>Device Configuration</b>							
<b>Advanced Configuration</b>							
<b>Recording Configuration</b>							
<b>Utilities</b>							

PPPoE is used to connect IPproducts to PPPoE modem provided by ISP. Since PPPoE needs verification, ID and password are necessary to access network. Type in ID and password.

## - Administrator password

To change the password for the administrator, click Admin Password on System Configuration menu.

The screenshot shows a web interface for configuring the administrator's password. On the left is a navigation menu with the following items: Quick Configuration, System Configuration (expanded), Network Configuration, Device Configuration, Advanced Configuration, Recording Configuration, and Utilities. Under System Configuration, the sub-items are: Server Name, Date & Time, Admin. Password (highlighted), Access Control, and User Registration. The main content area is titled "Administrator's Password Configuration". It contains a table with the following fields: Administrator's ID (fixed to "root"), Old Password, New Password, and Confirm Password. Below the table are "Back" and "Apply" buttons. A notice at the bottom states: "Notice : The password must be alphanumeric, within 4 ~ 23 characters."

Administrator's Password Configuration	
Administrator's ID	root
Old Password	<input type="password"/>
New Password	<input type="password"/>
Confirm Password	<input type="password"/>

*Notice : The password must be alphanumeric, within 4 ~ 23 characters.*

Default ID for admin account is fixed as "root" and not allowed to change.

In Old Password field, enter the current password. In both New Password and Confirm Password fields, enter the same new password.

The password must be between 4 and 23 alphanumeric letters.

Click Apply button to put it into effect.

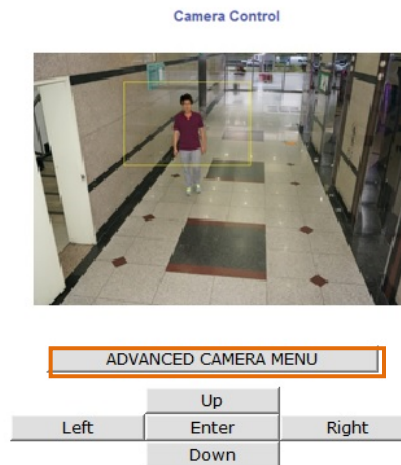
Because you have replaced the password with a new one, the existing network connection made with old password now is lost.

You will have to reconnect using the new password.

## - Accessing the setup menu

Camera SETUP menu can be accessed in two ways via web viewer.  
Most frequent controls are available with the parameters directly in the below table.  
More complicated settings such as PRIVACY, POINTING ZOOM & SMART MOTION settings are available via 'ADVANCED CAMERA MENU' by activating the camera OSD menu.

<b>Quick Configuration</b>
<ul style="list-style-type: none"> <li>※ Step 1</li> <li>※ Step 2</li> <li>※ Step 3</li> <li>※ Step 4</li> <li>※ Step 5</li> <li>※ Finish</li> </ul>
<b>System Configuration</b>
<b>Network Configuration</b>
<b>Device Configuration</b>
<ul style="list-style-type: none"> <li>Serial Ports</li> <li>Camera &amp; Motion <ul style="list-style-type: none"> <li>Camera Control</li> <li>Motion Detection</li> <li>Primary Stream</li> <li>Secondary Stream</li> </ul> </li> <li>DI/DO</li> <li>DI Status/DO Control</li> </ul>
<b>Advanced Configuration</b>
<b>Recording Configuration</b>
<b>Utilities</b>



TV System	<input checked="" type="radio"/> US(60Hz) <input type="radio"/> EU(50Hz)
Auto Focus	Zoom Push ▾
Max D-Zoom	Off ▾
Exposure Mode	Auto ▾
Shutter speed	30 ▾
Iris Level	10 (Default:10, 0 ~ 20)
Brightness	10 (Default:10, 0 ~ 20)
Sens-Up	<input type="radio"/> Auto <input checked="" type="radio"/> Off
WDR	<input type="radio"/> On <input checked="" type="radio"/> Off
WDR Weight	Mid ▾
Back Light Compensation	<input type="radio"/> On <input checked="" type="radio"/> Off <input type="radio"/> HLC
3D-NR	Mid ▾
Day & Night	Auto ▾
Day & Night Threshold	<input type="radio"/> Low <input checked="" type="radio"/> High
AGC	12 (Default:12, 0 ~ 20)
White Balance Mode	ATW ▾
WB Manual R-Gain	10 (Default:10, 0 ~ 20)
WB Manual B-Gain	10 (Default:10, 0 ~ 20)
Sharpness	10 (Default:10, 0 ~ 20)
Color Gain	10 (Default:10, 0 ~ 15)
Gamma	0.5 ▾
Mirror/Flip	[No Mirror, No Flip] ▾
Defog	<input checked="" type="radio"/> Off <input type="radio"/> Auto <input type="radio"/> Manual
Defog Weight	Mid ▾
Display Zoom Ratio	<input type="radio"/> On <input checked="" type="radio"/> Off
Display Focus Indicator	<input checked="" type="radio"/> On <input type="radio"/> Off
Display ID	<input type="radio"/> On <input checked="" type="radio"/> Off
Display Title	<input type="radio"/> On <input checked="" type="radio"/> Off
IR LED Mode	<input type="radio"/> On <input checked="" type="radio"/> Off

Back

Apply

Lens Initialize

## 6.2 Direct Control menu

SPECIAL	Default	Descriptions
TV SYSTEM	US or EU	Selects HDTV standards for US(60HZ) or EU(50HZ). By this selection, 2 <sup>nd</sup> analog video output switches to NTSC or PAL accordingly.
FOCUS MODE	ZOOM PUSH	ZOOM PUSH, AUTO and MANUAL modes are available for focusing. <b>ZOOM PUSH</b> – Focusing is activated only when zoom in/out is working. <b>AUTO</b> – Focusing is always working. <b>MANUAL</b> – Focusing can only be adjusted by ▲, ▼ of OSD control joystick or Focus Near/Far button on WEB.
D-ZOOM	OFF	D-ZOOM(Digital zoom) is available up to 32x. D-ZOOM starts working when the optical zoom reaches its maximum teleposition. Zoom ratio is displayed on the right bottom corner of the monitor if DISPLAY ZOOM RATIO is set to ON.
EXPOSURE MODE	AUTO	Can set EXPOSURE MODE to AUTO, IRIS Priority, SHUT. Priority, MANUAL and Flickerless. <b>AUTO</b> - Optimizes the video level by controlling the iris and the shutter speed automatically. <b>IRIS Priority</b> - Selects to fix IRIS in a certain aperture and the video level is controlled by an automatic shutter control. IRIS Level menu is activated when EXPOSURE MODE is set to IRIS Priority. Lower IRIS LEVEL will close more Iris and increase the field of depth in the daytime but significantly decrease the low light performance. Too much low IRIS LEVEL will result in the foggy video by the diffusion from the lens iris. <b>SHUT. Priority</b> - Selects to fix SHUTTER speed in a certain speed and the video level is controlled by an automatic iris control. This mode is useful when the color rolling occurs under the fluorescent lighting. It is not recommendable at outdoor in the daytime. <b>MANUAL</b> - Iris and Shutter can be set to fix. <b>Flickerless</b> - Reduces the flicker in video when US(60Hz)/EU(50Hz) mode is used in 50Hz/60Hz fluorescent lighting respectively. SHUT. Priority, MANUAL and Flickerless modes disable SENS-UP and MOTION BLUR functions.
BRIGHTNESS	10	Adjusts the brightness of video(0~20).
SENS-UP	AUTO	The brighter video can be obtained by increasing the exposure time in the night with SENS-UP. SENS-UP is the maximum integrations of frame by DSS(Digital Slow Shutter) in the low light. <b>AUTO</b> - SENS-UP is enabled or disabled automatically by the scene brightness. <b>OFF</b> - Disables SENS-UP.

WDR	OFF	<p>Improves the visibility for the high bright area and the dark area by the double captures of image with LONG and SHORT exposures. With WDR ON, the frame rate becomes half by the double captures.</p> <p>※CVBS video signal -</p> <p>Connecting 2nd video to CVBS port disables WDR function temporary. It should be considered when installer adjusts the video with installation monitor via CVBS video signal.</p>
WDR Weight	MID	<p>WDR level can be selected from LOW, MID and HIGH. Care should be taken to select this mode because video may lose its quality in some environments by the over compensation.</p>
Back Light Compensation (BLC)	OFF	<p><b>ON</b> – Improves the visibility for the dark object by the bright back light. Outside area of BLC window can over saturate. Available to set BLC POSITION at ADVANCED CAMERA MENU&gt; BLC POSITION</p> <p><b>HLC</b> – Cuts out the highlight area with black mask and excludes it from compensation. Lower HLC LEVEL cut out video from the lower level. HLC LEVEL is adjustable at ADVANCED CAMERA MENU&gt;HLC LEVEL</p>
3D-NR	MID	<p>3D-NR is a very sophisticated and powerful time-based noise reduction technology by monitoring the noise for the several video frames and defining and eliminating them consecutively at low light.</p> <p>Higher setting reduces noise much more but results in losing the sharpness and the tail effect or the motion blur for the fast moving target at low light.</p>
DAY/NIGHT	EXT for IR LED  AUTO for No IR LED	<p><b>EXT</b> – DAY or NIGHT is determined by the built-in light photo sensor. Camera with IR LED must be set to EXT.</p> <p><b>AUTO</b> – Used when DAY or NIGHT is determined by light level through the lens and DAY from/to NIGHT is switched automatically by the scene brightness. When EXPOSURE&gt;AGC is less than 12, DAY/NIGHT AUTO is disabled and forcibly switches to ____ (DAY) to avoid the malfunction. EXT, B/W(NIGHT) and COLOR(DAY) is independent on AGC level. When EXTERNAL IR LED is used with NON IR LED model, please set to IR LED MODE ON.</p> <p><b>B/W(NIGHT)</b> – Forcibly removes IR cut filter and switches to B/W regardless of light level.</p> <p><b>COLOR(DAY)</b> – Forcibly DAY/NIGHT is disabled and outputs color video.</p>
Day & Night Threshold	High	<p>D&lt;--&gt;N Threshold is a threshold level and Gap to switch from DAY to NIGHT. Low makes camera entered NIGHT at lower light level. High makes camera exited NIGHT at brighter light level.</p>
AGC	12	<p>AGC amplifies the video gain for brighter video but noise and white pixel accordingly. AGC level less than 10 disables AUTO in DAY/NIGHT.</p>

WHITE BAL	ATW	<p>ATW, ONE PUSH and MANUAL are available for the white balance modes.</p> <p><b>ATW</b> – White balance is continuously working along with the color temperature changes in the range of 2,000K~8,500K.</p> <p><b>ONE PUSH</b>- White balance works only when ONE PUSH is selected.</p> <p><b>MANUAL</b> –This mode can be used only when the color temperature does not vary. White balance is fixed to the settings by R_GAIN and B-GAIN.</p>
WB Manual R-Gain	10	Activates when WHITE BALANCE is set to MANUAL. Adjustable 0~20.
WB Manual B-Gain	10	
Sharpness	10	Adjusts the sharpness of video.
Color Gain	10	Adjusts the color level of video.
Gamma	0.5	Adjusts the gamma of video.
Mirror/Flip	NO	<p>Reverses the video left and right and/or up and down by MIRROR/FLIP.</p> <p><b>No Mirror, No Flip</b> – Normal display without mirroring or flipping</p> <p><b>No Mirror, Flip</b> – Video is reversed upside down.</p> <p><b>Mirror, No Flip Ver.</b> – Video is reversed left and right.</p> <p><b>Mirror, Flip HV</b> – Video is reversed left and right and upside down.</p> <p>When the video is reversed by Ver. or HV, then the joystick directions are reversed accordingly. This feature is very useful when a camera is installed in upside down.</p>
Defog	OFF	<p><b>AUTO</b> – Enhance the foggy video automatically according to status of scene</p> <p><b>MANUAL</b> – Sets to enhance the foggy video manually regardless of status of scene</p>
Defog Weight	MID	<p><b>LEVEL</b> – LOW, MID, HIGH</p> <p>Video quality can be less in normal environments.</p>
Display Zoom Ratio	OFF	ON enables to display the zoom ratio on the bottom right corner. OZx.x appears during the optical zoom and DZx.x will display by multiplying the optical zoom ratio and the actual digital zoom ratio.
Display Focus Indicator	ON	ON enables to display the Focus Indicator on Monitor.
Display ID	OFF	ON enables to display Camera ID on Monitor.

Display Title	OFF	ON enables to display Camera Title on Monitor.
IR LED Mode	OFF	IR LED Control(AUTO/OFF) is available with IR LED model only. If IR LED is set to OFF, IR LED will be turned OFF but DAY or NIGHT is still determined by the built-in light photo sensor. IR LED Mode is workable with IR LED built-in model only.
Lens Initialize		<p>Lens initialization is necessary during the installation or the regular operation to align the position data with the mechanical positions whose lens elements may move and deviate from its calibrated position by the shock or vibration, for example, during the transportation.</p> <p>LENS INIT checks the positions for zoom and focus at both of the end positions and saves them for the references. Lens initialization is automatically executed at power up.</p> <p><b>CAUTION</b>  <u>It is strongly necessary to execute LENS INIT in cases below:</u>  <u>1) At the final step for the installation.</u>  <u>2) When focus becomes out of control by the shock or vibration.</u></p>

### 6.3 ADVANCED CAMERA menu

Click 'ADVANCED CAMERA MENU' bar at CAMERA CONTROL menu to activate the camera OSD menu.

Click Up/Down/Left/Right bars to navigate or change the parameters.

These options have been pre-configured at the factory for optimal performance.

MENU	V3.07
1. PRIVACY	↵
2. MOTION	OFF↵
3. TITLE SET	↵
4. SMART IR	:  0
5. MOTION DEBLUR	ON
6. HLC LEVEL	:  10
7. BLC POSITION	SET
8. POINTING ZOOM	↵
9. EXIT	SAVE&EXIT↵

SPECIAL	Default	Descriptions
PRIVACY	-	<p>10 Privacy zones which can be enabled individually by ZONE DISP are available to mask the video.</p> <p><b>ZONE NUMBER</b> – Set a number to select a privacy zone from 1~10.</p> <p><b>ZONE DISP</b> – ON enables a relevant privacy zone.</p> <p><b>H-POS, V-POS, H-SIZE and V-SIZE</b> – Adjust the size and position of zone.</p> <p><b>COLOR</b> – Select the color used for masking the zone form eight colors.</p> <p><b>TRANSPARENCY</b> – Defines the transparency for the mask zone.</p>
MOTION	OFF	<p>MOTION can detect the changes in the motion window and displays the results in blocks and/or a text message.</p> <p><b>SENSITIVITY</b> – Adjusts the detection sensitivity for motion. High value increases the sensitivity to detect the small motion easily. Too high sensitivity will cause the erratic detection by the tree leaves or the light level changes and too low setting will fail in detecting the motion</p> <p><b>H-POS,V-POS, H-SIZE and V-SIZE</b> - Adjust the size and position of the detection window.</p> <p><b>BLOCK DISP</b> – ON enables to display the blocks for the detected area.</p> <p><b>MOTION OSD</b> – ON enables to display a text message, MOVING !!!,</p> <p><b>SMART MOTION ZOOM</b>– ON enables to Automatic Zoom IN/OUT when motion is detected and also enables MOTION OSD to ON.</p> <p>Area to be zoomed in by SMART MOTION ZOOM can be set at MOTION&gt; SMART MOTION ZOOM&gt;ZOOM TARGET. Clicking “Up, Down, Left, Right and Enter bar” for ZOOM TARGET varies the viewing angle to be zoomed when the motion occurs.</p> <p>Set the video left and right and/or up and down by MIRROR/FLIP.</p> <p>See ‘6.3.1 SMART MOTION ZOOM’ for detail.</p> <p><b>STAY ZOOMING</b> – Sets the duration time for zooming by Motion.</p> <p><b>CAUTION</b>  Set the direction of video by MIRROR/FLIP before SMART MOTION ZOOM setting. Otherwise ZOOM TARGET could be different from your intention.</p>
TITLE SET	-	<p>Camera title(name) can be set and edited up to 15 alpha numeric and symbolic characters from ASCII codes(ENGLISH only).</p> <p>Clicking the Up/ Down/ Left/ Right bars to move the cursor for choosing characters and click the Enter bar to select them. The selected characters are added and displayed on the top left corner and the cursor moves right automatically for next input.</p> <p><b>SP</b> - Space is inserted when clicked.</p> <p><b>BS</b> – Cursor moves back when clicked.</p> <p><b>CLR</b> – Clears all the characters on input line when clicked.</p> <p><b>POS</b> – Sets the title position by using four direction bars and clicked enter bar.</p>



SMART IR	0	SMART IR can be set to reduce the saturation by the strong IR illumination in the night in any menu of EXT, AUTO and B/W(NIGHT) Setting SMART IR in any menu is identically applied to other menu. Zero(0) turns off SMART IR and High setting avoids the saturation strongly but the corners will be darker accordingly.
MOTION DEBLUR	ON	ON enables MOTION DEBLUR to reduce the motion blur in a certain indoor environment. Noise or color rolling can increase.
HLC LEVEL	10	Cuts out the highlight area with black mask and excludes it from compensation. Lower HLC LEVEL cut out video from the lower level.
BLC POSITION	SET	Improves the visibility for the dark object by the bright back light. Outside area of BLC window can over saturate. BLC has a target window for compensation and its size and position can be set by H-POS, V-POS, H-SIZE and V-SIZE.
POINTING ZOOM	-	ON enables to set off-centered location to be the center of zoom <b>H-POINTER, V-POINTER</b> - Able to set the location of zoom center D-Zoom is available to ~ 32x. See '6.3.2 POINTING ZOOM' for detail.  <b>CAUTION</b> Set the direction of video by MIRROR/FLIP before POINTING ZOOM setting. Otherwise location of zoom center could be different from your intention.
EXIT		SAVE & EXIT – Exits the menu after saving the parameters.

### 6.3.1 SMART MOTION ZOOM

SMART MOTION ZOOM enlarges the certain area defined by a yellow window to the full sized image when the motion is detected in the black window.

SMART MOTION ZOOM window can be re-sized by adjusting D-ZOOM RATIO and moved by H-POINTER and V-POINTER.

*UNLIKE the conventional zoom which can zoom in/out the center area of image only, by the flexible zoom location and area, SMART MOTION ZOOM differentiate its usefulness from others.*

*That is, a conventional camera installed on the corner of ceiling can zoom the center of the floor in a room and result in losing the image of door on the side wall.*

*However, SMART MOTION ZOOM can be set to see the door side and zoom in that area without missing the IMPORTANT security point.*

SMART MOTION ZOOM	
H-POINTER	10
V-POINTER	10
O-ZOOM RATIO	OX2.0
D-ZOOM RATIO	DX1.5
RETURN	RET↵

SMART MOTION ZOOM	Default	Descriptions
H-POINTER	10	Moves MOTION ZOOM area(Yellow window) horizontally.
V-POINTER	10	Moves MOTION ZOOM area(Yellow window) vertically.
O-ZOOM RATIO	OX2.0	Sets the area size to be Optical zoomed when the motion occurs in the black window
D-ZOOM RATIO	DX1.5	Sets the area size to be Digital zoomed when the motion occurs in the black window

### 6.3.2 POINTING ZOOM

This camera has a very useful and powerful feature, POINTING ZOOM, which can zoom in/out any area.

*UNLIKE the conventional zoom which can zoom in/out the center area of image only, by the flexible zoom location and area, POINTING ZOOM differentiate its usefulness from others.*


*That is, a conventional camera installed on the corner of ceiling can zoom the center of the floor in a room and result in losing the image of door on the side wall.*

*However, POINTING ZOOM can be set to see the door side and zoom in that area without missing the IMPORTANT security point.*

POINTING ZOOM can be activated by the joystick operations of ▲ for zoom in and ▼ for zoom out or Zoom in/out button on WEB VIEWER while SMART MOTION ZOOM is activated by the result of motion detection in the defined area.

If Zoom ratio becomes out of optical zoom ratio, it automatically turns to Digital Zoom.

Set D-Zoom Pointer	
POINTING ZOOM	OFF
H-POINTER	10
V-POINTER	10
RETURN	RET↵



POINTING ZOOM	Default	Descriptions
POINTING ZOOM	OFF	ON enables to set off-centered location to be the center of zoom
H-POINTER	10	Sets the horizontal location of area to be zoomed by POINTING ZOOM.
V-POINTER	10	Sets the vertical location of area to be zoomed by POINTING ZOOM.

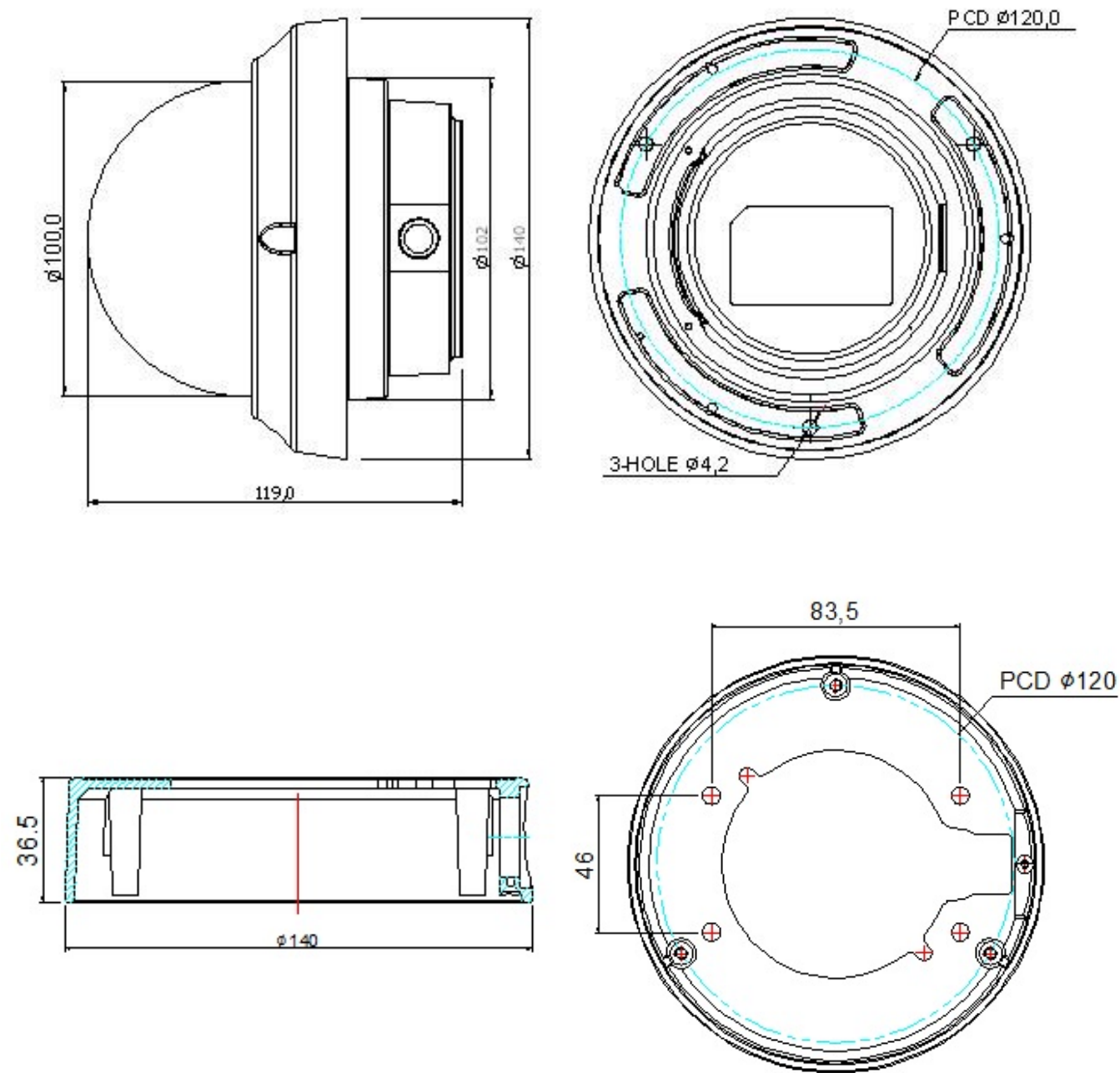
## 7. Specifications

207513	PXD-2080Z03 B	
<b>Imaging Sensor</b>	Sony Exmor 1 / 2.9" Progressive Scan CMOS Sensor	
<b>Effective Pixels</b>	1,936(H) x 1,097(V)	
<b>Min. Illumination</b>	0.0008 Lux (@AGC MAX, DSS x2)	
<b>Output Video Resolution</b>	1920x1080(30p/25p)	
<b>TV system</b>	US(60Hz)(switchable to EU(50HZ))	EU(50Hz)(switchable to US(60Hz))
<b>Sync. System</b>	Internal	
<b>Format</b>	16:9 Video format for most popular commercial HDTV monitors	
<b>Video Output</b>	Ethernet thru RJ45 male & CVBS thru BNC	
<b>Video Sub-out</b>	NTSC/PAL standard, 1Vpp @75Ω terminated	
<b>S/N Ratio</b>	More than 50dB (AGC OFF)	
<b>Lens type</b>	3X Day & Night Zoom Lens, f3~9mm , F1.2 (wide) ~ F2.1 (tele)	
<b>Zoom Ratio</b>	Optical 3X, Digital 32X Zoom	
<b>Day &amp; Night</b>	True Day & Night by ICR	
<b>LEDs</b>	Built-in 2pcs x 855nm High Power IR LEDs	
<b>Focus</b>	Auto / Zoom Push / Manual	
<b>Exposure Control</b>	Auto / Iris-Priority / Shutter-Priority / Manual / Flickerless	
<b>Flip</b>	OFF / H / V / HV FLIP	
<b>White balance</b>	ATW / ATWext / ONE PUSH / MANUAL	
<b>Minimum Focus Distance</b>	0.5 m~	
<b>WDR</b>	True WDR by dual scan in two frames at 15fps.	
<b>Functions</b>	NORMAL, WDR, D-WDR, BLC, HLC	
<b>Special Feature</b>	SMART MOTION ZOOM (Automatic Zoom IN/OUT when motion is detected), Pointing Zoom which enables the flexible zooming at any area, Motion Detection, Privacy Mask, Pixel Defect Compensation, Defog, Title Set, Motion Deblur, Focus Indicator	
<b>Language</b>	English, German, French, Italian, Spanish, Polish, Japanese	

<b>Power</b>	PoE(IEEE Std. 802.3af), 24V ~ 15VA / 12V, 1A DUAL POWER
	Circuit protection against faulty connection in Power Polarity
	Isolated power supply against ground loop problem
<b>Protection Rating</b>	IP67 / IK10
<b>Mechanical Feature</b>	Changeable surface mount and flush mount / Perfect 3-Axis gimbal
<b>Installation Temperature</b>	-20°C ~ +50 °C (Humidity : 20%RH ~ 80%RH)
<b>Operating Temperature</b>	-30°C ~ +50 °C (Humidity : 20%RH ~ 80%RH)
<b>Housing</b>	Solid Aluminum Cast with Hard coated polycarbonate clear Bubble
<b>External Dimension</b>	100mm(Ø) x 140mm(W) x 119mm(H), about 1Kg
<b>IP SPECIFICATION</b>	
Video Encoding	H.264 / MJPEG dual streaming
Protocol	HTTP, TCP/UDP/IP, ARP, ICMP, RTP/RTSP, multicast, Telnet, ftp, PPPoE, SMTP(e-mail), DHCP, NTP, uPNP, etc, ONVIF, PSIA support
Transmission Control	VBR, CBR ( 32K ~ 12M bps )
CMS	Bundled with Full featured 16 channels PC NVR. 32/64 channels available(Optional)
IP Installation & maintenance	Configuration: installation wizard, HTTP, telnet and console, Upgrade firmware: HTTP, telnet+ftp
Connectivity	Max. 16 simultaneous user connection
SD memory card	Slot for MICRO SD memory card up to 32GB
Audio & Alarm	Two way audio input /output
PoE	IEEE Std. 802.3af

- Design and specifications are subject to change for product improvements without prior notice.

8. Dimensional Drawings



(Unit: mm)





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